

it is being cultivated more widely than ever. These seeds are fresh and as yet are not thoroughly dried. As you know, when they are dry they are very hard, so hard that they must be soaked in water until thoroughly wet and planted where they will freeze, so as to burst open the shell.

"The largest roots of ginseng weigh about 160 grams. There seems to be but one variety, or if there are more, they are not recognized by the Korean farmers. When the roots are first dug they are all white, but when they are marketed there is a variety of appearances:

"*First*, white ginseng is the peeled and dried roots. This is used mostly by the Koreans and does not constitute the first quality of roots.

"*Second*, red ginseng is the best and most expensive of the roots. The color is given by a thorough steaming, and it is sold chiefly to the Chinese.

"*Third*, root ginseng, or perhaps a better translation of the Chinese character would be rootlet ginseng, is used chiefly in the form of tea. As the name implies, it is composed of the dried rootlets only.

"*Fourth*, sweet ginseng is composed of the faulty roots of the first, second, and third years' growth. It is usually put up in the form of preserves.

"*Fifth*, ginseng sirup is a by-product produced by boiling down to a sirup the condensed steam which was used in coloring the red ginseng. This is a modern development, or possibly an innovation from America. This, it seems, is one of the great sources of profit in the ginseng business.

"When the ginseng comes up it has only one stem with 5 leaflets. No more leaflets come out the first season, but in the fall it puts out a stem and a bunch of blooms, ranging from 10 to 20. One or two seeds form on each bloom. The second year the plants are put out 10 leaflets are formed, the third year 15, and the fourth year 20, etc. One can know the age of the plant by counting the leaflets and dividing the total by 5.

"If the seeds are to be planted in the spring, the land must be plowed two or three times in the late summer and sprayed well with formalin. The soil should be thoroughly stirred and loosened up, so that the sun may penetrate it. The land must be plowed again in the spring and then worked up into beds 8 inches high, 3 or 4 feet wide, and as long as the field will permit. The beds are covered by a roof 3 or 4 feet high, made from rice or other straw, and should be screened in all around with coarse grass or sorghum. The roof need not be very heavy in the early spring, but in the hot summer time it must be thick enough to keep out much of the heat and all of the sunlight. The beds are edged with flat pieces of slate, to keep them in shape and also to prevent the expensive fertilizer from being wasted.

"The soil is prepared as follows: In the fall planting, disintegrated granite is dug up fresh from the ground, sifted, and the coarser gravel thrown away. The sifted granite is piled out where the air will penetrate it, and where freezing and other weather forces will act upon it. In the fall, leaves are piled up and allowed to rot over winter. In the spring they are dried and ground into powder and mixed half and half with the gravel and then spread over the beds, 5, 6, or 7 inches deep. This would mean about  $4\frac{1}{2}$  bushels of mixture to a plat containing 17 square feet.

"The seeds are planted here between the twentieth and the twenty-fifth of March. They are placed an inch apart each way in the bed and buried about three-eighths of an inch. A mixture of creek or river sand and leaf mold, as above described, two parts of sand to one of mold, is spread over the bed three-eighths of an inch deep and covered with straw. The bed is spread twice a day with water. The roof is not built over the bed until the plants start to peep out. The straw is then removed and the roof above mentioned built over the bed, where it remains until the ginseng is gathered, seven years later. The most important thing is to keep out the rain and sunlight. The beds must be kept moist with pure well or spring water. About the twentieth of May the same mixture of creek sand and leaf mold is spread over the bed, this time from three-